

ABSTRACT OF THE DISCLOSURE

A magnetic sensor apparatus includes a semiconductor substrate and a magnetic impedance device for detecting a magnetic field. The magnetic impedance device is disposed on the substrate. The magnetic sensor apparatus has minimum size and is made with low manufacturing cost. Here, the magnetic impedance device detects a magnetic field in such a manner that impedance of the device is changed in accordance with the magnetic field when an alternating current is applied to the device and the impedance is measured by an external electric circuit.